



A new genus and species of Chamaemyiidae (Diptera: Lauxanioidea) from South America feeding on *Ceroplastes* wax scales (Hemiptera: Coccidae), and status of the genus *Ortalidina* as a chamaemyiid

STEPHEN D. GAIMARI

California State Collection of Arthropods, California Department of Food & Agriculture, Plant Pest Diagnostics Branch, 3294 Meadowview Road, Sacramento, CA 95832-1448, USA; email: stephen.gaimari@cdfa.ca.gov

Abstract

A new genus and species of Chamaemyiidae (Diptera: Lauxanioidea) is described and illustrated, namely *Chamaeleucopis*, gen. nov. (type species *Chamaeleucopis trevas*, sp. nov.), a predator of *Ceroplastes* wax scales on guava from Brazil. In addition, the previously unrecognized genus *Ortalidina* Blanchard 1852 (type species *Ortalidina cellularis* Blanchard 1852), mainly from the Neotropics, is recognized as a chamaemyiid, and is the senior synonym of *Toropamecia* Cogan 1978, syn. nov. (type species *Acrometopia punctata* Coquillett 1902). The species *Toropamecia grossa* Cogan 1978, syn. nov., is synonymized under *Ortalidina cellularis*. All species therein become new combinations within *Ortalidina*, including (in their original combinations) *Acrometopia australis* Malloch 1933, comb. nov., *Acrometopia maculata* Coquillett 1902, comb. nov., *Acrometopia punctata* Coquillett, comb. nov., *Toropamecia apaxa* Cogan 1978, comb. nov., *Toropamecia caribbea* Cogan 1978, comb. nov., *Toropamecia hendeli* Cogan 1978, comb. nov., *Toropamecia hyalipennis* Cogan 1978, comb. nov., *Toropamecia jujuyensis* Cogan 1978, comb. nov., *Toropamecia longipennis* Cogan 1978, comb. nov., *Toropamecia macalpinei* Cogan 1978, comb. nov., *Toropamecia multipunctata* Cogan 1978, comb. nov., *Toropamecia nigripalpis* Cogan 1978, comb. nov., *Toropamecia reducta* Cogan 1978, comb. nov., *Toropamecia smithi* Cogan 1978, comb. nov., *Toropamecia veenota* Cogan 1978, comb. nov., *Trigonometopus reticulatus* Johnson 1913, comb. nov. A habitus photo of the primary type for each species of *Ortalidina* is provided.

Keywords: Chamaemyiidae, *Toropamecia*, new genus, new species, new synonyms, new combinations

Introduction

Chamaemyiidae (Diptera), or silver flies, represent a group of larval predators attacking sternorrhynchus Hemiptera such as aphids, adelgids, scales and mealybugs. Although the species of some chamaemyiid genera are quite general in their feeding habits, many genera are restricted to a particular sternorrhynchan host taxon. There are currently 28 described extant genera and subgenera with more than 335 valid species. The Chamaemyiidae chapter (Gaimari 2010) in the second volume of the *Manual of Central American Diptera* includes a key to all 16 described (and 4 undescribed) New World genera and subgenera. This paper serves to make available one of the recognized new genera from that work, and to provide a generic synonymy that was alluded to (without enumerating the many new combinations) for a widespread Neotropical genus.

Materials and methods

Specimens of the new taxon were obtained from the Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil (MZSP), and two paratypes were placed in the California State Collection of Arthropods, Sacramento, California, USA (CSCA). The primary types of the species of *Ortalidina* are housed in the Natural History Museum, London, United Kingdom (BMNH); Canadian National Collection of Insects, Ottawa, Ontario, Canada (CNC); Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA (MCZ); Naturhistorisches Museum, Wien, Austria (NHMW); and National Museum of Natural History, Washington, DC,

USA (USNM). Photographs for all primary types of *Ortalidina* are provided as a companion reference for the work of Cogan (1978). For specimens where abdomens were dissected, the abdomen and genitalia are in glycerin in a glass vial mounted on the same pin.

Terminology. Basic terminology follows McAlpine (1981, 1987) and Cumming & Wood (2009). Body length was measured by adding the length of the head (without antennae) through the thorax to the abdominal length, to account for differential curling of the abdomens. For head ratios: the head length and height were measured from a lateral view, respectively, from the lunule through the posterior occiput, and from the dorsal edge of the head through the ventral edge of the gena; the frons width and length were measured from an anterodorsal view, with the frons width through the anterior ocellus, and the frons length from the anterior ocellus through the anterior edge of the frons. On the thorax, the scutal width was measured at the level of the supra-alar setae, and the scutellar width was measured through the area of contact with the scutum. Wing height was measured at the level just proximal to the apex of CuA₁. All other measurements were made through their maximum values.

***Chamaeleucopis*, gen. nov.**

“Undescribed genus A.” Gaimari, 2010: 1004.

Type species. *Chamaeleucopis trevas*, sp. nov., by present designation.

Etymology. The feminine genus name is a combination of the genus names *Chamaemyia* and *Leucopis*, to indicate the unexpected presence of 2 pairs of strong fronto-orbital setae, a character present in *Chamaemyia* and other chamaemyiines, but only rarely in leucopines.

Diagnosis. As a monotypic genus, the diagnosis for the genus is identical to that of the single species. The key in Gaimari (2010) aids the separation of this genus from all other New World genera.

***Chamaeleucopis trevas*, sp. nov. (Figs. 1–9)**

Etymology. From the Portuguese noun “*trevas*,” meaning darkness, referring to the dark body of this species; to be treated as a noun in apposition.

Diagnosis. The body is compact and stout, and overall dark in color, with a shiny black abdomen (Fig. 1). On the frons, there are 2 strong fronto-orbital setae. Postocellar setae are absent, but ocellar setae are present, proclinate and diverging. The posterior ocelli are slightly farther apart than the distance between a posterior ocellus and the anterior ocellus. The lunule is wide, high and setulose. The antennae are mostly yellowish orange, except for the darker distal part of the 1st flagellomere, and they are separated by a distance equal to the width of one antennal socket. The palpus is large, spatulate and yellowish orange. The scutum is dark silvery-grey pruinose with diffuse brownish pruinose areas centrally, the scutellum is brown pruinose, while the pleuron is lighter silvery-grey pruinose. There are 2 dorsocentral setae located in the posterior part of the scutum, and prescutellar acrostichal setae are present. In the male genitalia, the pregonite is absent, while the postgonite is large, blunt, laterally flattened and spatulate.

Description. *Adults*, ♂, ♀. Body length 2.1–2.2 mm (♂, 2.2 mm; ♀, 2.1–2.2 mm).

Head (Figs. 1–3). 1.6–1.9 X higher than long; 1.2–1.3 X wider than high. Vertex silvery grey, except for small brown spot anterior to vertical setae; with outer vertical seta slightly longer than inner one. Postocellar setae absent. Ocellar triangle silvery grey; with posterior ocelli separated by distance 1.4 X that between posterior and anterior ocellus; slightly raised, placed slightly anterior to vertex; with several setulae within triangle. Ocellar setae proclinate and diverging; originating at midpoint between anterior and one posterior ocelli. Eye 1.2–1.3 X higher than long; height 2.5–2.9 X genal height. Frons reddish brown, except for pale patch in front of anterior ocellus; 1.3–1.4 X wider than long; with lateral edges only slightly diverging anteriorly, 1.2–1.4 X wider at level of lunule than at level of anterior ocellus; with numerous reclinate setulae medially, and several proclinate setulae along eye margin anteriorly. Fronto-orbital area concolorous with central frons, except silvery-grey pruinose along eye margin; with 2 reclinate fronto-orbital setae, with anterior seta located at level of midpoint between anterior ocellus and edge of lunule, and with posterior seta located midway between anterior seta and vertical setae. Lunule light brownish grey above antennae, becoming silvery grey at level of antennae through face; wide and arched, height

0.6–0.7 X frons length; sloping to plane of frons above antennal base; with small, fine, proclinate setulae. Antenna yellow orange, except 1st flagellomere dark brown in distal half, and basal part of basal segment of arista black (remaining states of arista unknown due to breakage of all specimens); separated by slightly more than width of antennal socket; 1st flagellomere large, rounded. Face silvery grey; receding, with deep antennal grooves. Parafacial and gena brownish pruinose; gena with one strong genal seta in addition to several setulae above and behind. Clypeus black with sparse covering of silvery grey pruinescence; small, exposed. Palpus yellowish orange, darkest at tip; spatulate; with several scattered tiny setulae distally. Prementum and labellum yellow, small.

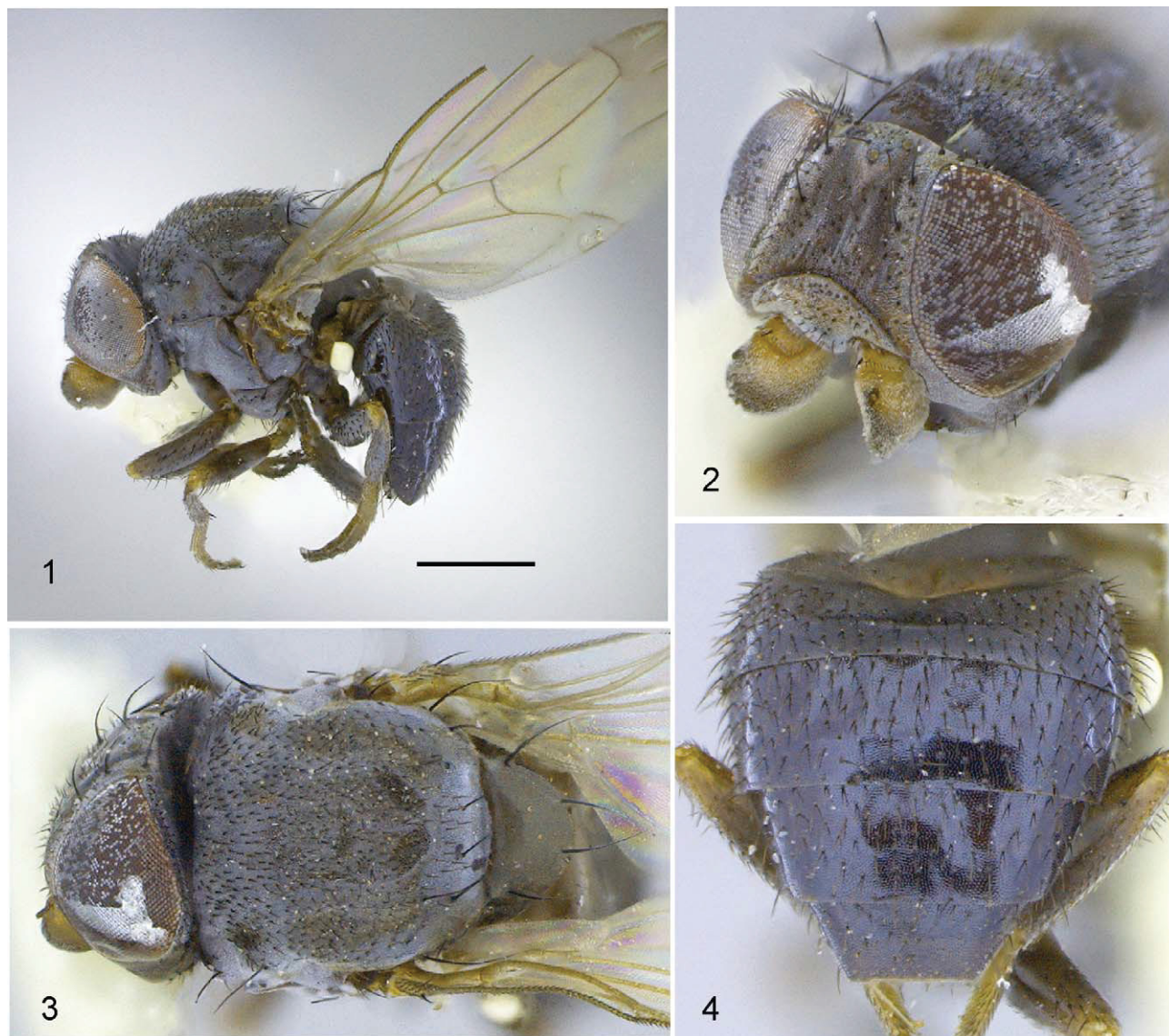


FIGURE 1–4. *Chamaeleucopsis trevas*, sp. nov., paratype ♀. 1. Habitus, lateral view, scale bar = 0.5 mm. 2. Head, anterodorsal view. 3. Thorax and head, dorsal view. 4. Abdomen, dorsal view.

Thorax (Figs. 1, 3). Scutum dark silvery-grey pruinose with diffuse brownish pruinose areas centrally; 1.1–1.2 X longer than wide; 3.9–4.4 X longer than scutellar length; setulose; dorsocentral vittae absent. Prescutellum present. Scutellum brown pruinose; 1.7–2.0 X wider than long. Pleuron entirely silvery-grey pruinose. Chaetotaxy: 0+2 dorsocentral setae located in posterior third of scutum, posterior seta 2 X longer than anterior one; one postpronotal seta; two notopleural setae, in anterior and posterior corners, posterior one slightly smaller; one pre- and one postsutural supra-alar seta; two postalar setae; one prescutellar acrostichal seta; proepisternum, anepisternum and anepimeron lacking setae; one strong katepisternal seta along upper edge, with several small setulae anterior to seta; two pairs scutellar setae. *Legs*. Femora greyish pruinose, with apex yellow. Tibiae greyish pruinose, with hind femur slightly flanged dorsally. Tarsi with tarsomeres 1–2 dark yellow, becoming darker

through remaining tarsomeres. *Wing*. Length 2.0–2.2 mm (♂, 2.2 mm; ♀, 2.0–2.2 mm); 2.6–2.8 X longer than high. Hyaline, with veins light brown. Veins R_{2+3} , R_{4+5} and M_1 parallel in distal half of wing. Crossvein r-m located slightly basad of halfway point of wing length, and at 3/5 point of cell dm-cu length. Crossvein bm-cu complete, fully separating cells dm and bm. Vein CuA_1 extends to wing margin; apical section 0.8–1.1 X longer than crossvein dm-cu. Halter stalk brown, knob yellow.

Abdomen (Fig. 4). Tergites shiny black; uniformly setulose, except setulae slightly enlarged along posterior margin, longest laterally. Syntergite 1+2 and tergite 3 of ♂ apparently lacking patch of microtrichiae on lateral edge. Sternites black; sternites 3–5 subsquare, small, with sternite 5 slightly larger than preceding sternites; setulose, with longest setulae along posterior edge. *Pregenital segments of male*. Tergite and sternite 6 absent. Syntergosternite 7+8 a narrow strip, 1/3 length of preceding tergite, broad laterally, with heavy setulae on posterolateral part; sternite 7 apparently absent. *Pregenital segment of female* (Fig. 9). Tergite 6 about 3.5 X wider than long, length 0.7 X length of tergite 5; sternite 6 enlarged, 2.2 X wider than long, 0.6 X width of tergite 6, and 2.7 X wider than sternite 5, setulose in posterior half, anterior and posterior margins emarginate.

Male genitalia (Figs. 5–8). Epandrium strongly convex along posterior margin, with small, abruptly tapering sharp surstylar lobe; with series of long setae along inner edge, and patch of smaller setae distally. Cercus of moderate size, with short hairs, and with long hairs at apex. Subepandrial plate distinctly sclerotized, teardrop-shaped (rounded end distally), 2 X longer than wide; flanked by distinct subepandrial membrane. Hypandrium in ventral view a thin posteriorly curved transverse strip, widest at lateral edges; in dorsal view subequal in length and width, subcircular, with notch mediodistally and a lightly sclerotized window centrally; in profile distinctly undulate, widest dorsally before curving and thinning ventrally. Pregonite absent. Postgonite large, laterally flattened and spatulate. Phallapodeme in lateral view strongly upcurved and tapering to anterior point, and with deep notch on posterior edge; in ventral view club-shaped, expanded anteriorly. Phallus in lateral view gently curved and tapering distally, with pair of anteriorly directed inner processes; basiphallus with strong, wide medial connection to distal edge of hypandrium; in dorsal view, basiphallus broad, distiphallus strongly bifid with lateral arms slightly curved outward.

Female terminalia. Tergite 7 not evident or entirely membranous; sternite 7 (Fig. 9) small (1/3 length and 0.4 X width of sternite 6), divided medially into two small elongate sclerotized patches; tergite and sternite 8 not evident, or entirely membranous. Hypoproct lightly sclerotized, tapering evenly to rounded tip. Epiproct subtriangular, with normal cercus bearing uniformly short setulae. Internally, spermathecae 2+2, round.

Immatures. Unknown.

Type material. Holotype ♂ (point mounted; poor condition, head mounted separately on top of point, abdomen and genitalia in glycerin in glass vial mounted below labels), deposited in MZSP, with the following labels: “Piracicaba, SP, Set. 1978, E. Berti F²” / “Ex Ceroplastes em Goiabeira” / “SDG dissection 1370 ♂” / “HOLOTYPUS ♂ *Chamaeleucopis trevas* Gaimari” (red label). Paratypes. BRAZIL. **SÃO PAULO. Piracicaba**, Piracicaba, ix.1978, coll. E. Berti Filho, ex. *Ceroplastes* scales on Gioabeira (= *Psidium guajava*) [same data as Holotype] (2 ♀♀ (including SDG dissection 1386), MZSP; 2 ♀♀, CSCA).

Distribution. Known from Brazil (São Paulo State).

Biology. Like the species of the chamaemyiid genus *Echinoleucopis* Gaimari & Tanasijtshuk, this species is predacious on wax scales in the genus *Ceroplastes* Gray (Hemiptera: Coccidae), presumably also feeding as an egg predator within a female ovisac. The only plant on which this species has been collected is guava, *Psidium guajava* L. (Myrtaceae). According to Ben-Dov (2011), 10 species of *Ceroplastes* known from Brazil (seven of which are known from São Paulo State) feed on guava.

Remarks. Despite the geographical proximity and similar life history of this species to those of *Echinoleucopis*, they are clearly not congeneric, although they share a rather robust body form, and a head that is much higher than long. Among other characteristics detailed in Gaimari & Tanasijtshuk (2001), the presence of 2 full-sized, widely-separated fronto-orbital setae is unique to this new genus among New World Leucopini. In addition, species of *Echinoleucopis* lack ocellar setae, while in the new genus they are present, proclinate and diverging. The lunule is very high in *Echinoleucopis*, being subequal in length to the frons, while in the new genus the lunule is broad and comparatively low. A pair of prescutellar acrostichal setae is present in the new genus, and absent from *Echinoleucopis*. In males, the species of *Echinoleucopis* possess a distinct sternite 6, while this sternite is absent in the new genus. In females, sternite 7 is subdivided medially in both genera, but in *Echinoleucopis* the sternite is setulose while it is bare in the new genus; sternite 6 is comparatively massive in the new genus.

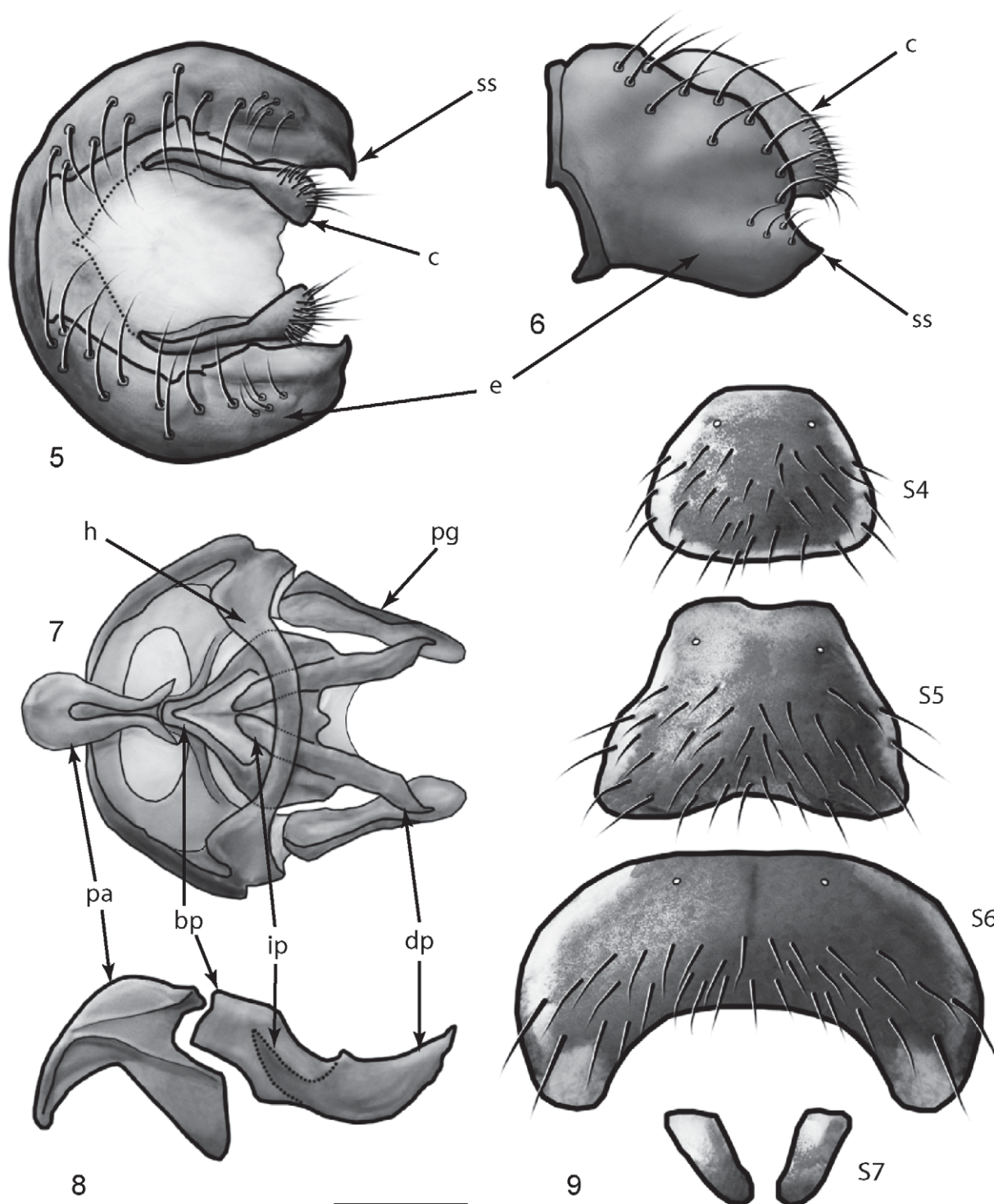


FIGURE 5–9. *Chamaeleucopsis trevas*, sp. nov., holotype ♂, genitalia (5–8), paratype ♀, sternites (9), scale bar = 0.01 mm. 5–6. Epandrial complex: 5. dorsal view, 6. lateral view. 7. Phallus complex, ventral view. 8. Phallus and phallapodeme, lateral view. 9. Female sternites 4–7, ventral view. bp = basiphallus; c = cercus; dp = distiphallus; e = epandrium; h = hypandrium; ip = inner process of phallus; pa = phallapodeme; pg = postgonite; S = sternite; ss = surstylar lobe.

Although clearly different in gestalt and body size (species of the chamaemyiid genus *Melaleucopsis* Sabrosky are less than 2 mm in length), this species shares several characteristics with *Melaleucopsis*, including proclinate and divergent ocellar setae, presence of a fronto-orbital seta (only 1 in *Melaleucopsis*), and a shiny black abdomen. But this species differs from *Melaleucopsis* in having a very wide lunule, a large spatulate palpus, 2 fronto-orbital setae, posterior ocelli that are slightly farther apart than the distance between a posterior ocellus and the anterior

ocellus, and the frons being completely pruinose (shiny black in *Melaleucopis*). In addition, crossvein bm-cu in the wing is complete (in *Melaleucopis*, this crossvein is stublike, incomplete, and does not fully separate cells dm and bm). They also differ in their life histories, with *Melaleucopis* species being predators of free-living Ortheziidae (Beingolea 1957, Sabrosky 1957).

The new genus is also superficially similar to the Australian chamaemyiid genus *Pseudoleucopis* Malloch (e.g., the general body color, presence of two strong fronto-orbital setae), but differs in several critical characteristics, including a fully exposed lunule, and the absence of sternite and tergite 6, of sternite 7, and of pregonites in the male genitalia, in addition to the large, spatulate postgonite. In addition, the two genera are in two different tribes of Chamaemyiinae, with the new genus in the Leucopini and *Pseudoleucopis* in the Chamaemyiini (Tanasijtshuk 1996).

***Ortalidina* Blanchard**

Ortalidina Blanchard 1852: 455. Type species, *Ortalidina cellularis* Blanchard, by monotypy. Steyskal, 1968: 23 (catalog, as unplaced genus); Gaimari 2010: 1004 (in key).

Toropamecia Cogan 1978: 230, **syn. nov.** Type species, *Acrometopia punctata* Coquillett, by original designation. Tanasijtshuk 1986: 55 (distribution), 1992: 207/74 (in key), 214/82 (diagnosis), 2003: 168 (distribution), 170 (in cladogram).

Remarks. The genus *Ortalidina* Blanchard was considered part of the Ortalidae (=Ulidiidae) when originally described, likely based on the strongly pictured wing of the type species, although Blanchard (1852) did acknowledge that this genus was somewhat different from most ortalids. Some confusion about the included species within the genus was introduced by Steyskal (1968), which has been perpetuated in various online scientific-name resources. In the South American catalog of Otitidae, Steyskal (1968) had a section on “Unplaced genera and species”, wherein *Dorycera conspersa* Walker is listed first, followed by the genus *Ortalidina* (represented as a heading) with the species *cellularis* below it, then followed by seven additional species (*Ortalis decorata* Blanchard, *Ortalis ochraspis* Wiedemann, *Ortalis picta* Blanchard, *Ortalis striolata* Blanchard, *Ulidia fulvifrons* Bigot, *Ulidia metallica* Bigot, and *Urophora antillarum* Macquart). Having *Ortalidina* appear as a heading had evidently confused some databasers to include the seven additional species as members of this genus. However, this would be contrary to their being in the “unplaced” category, and in the index they are listed as “unrecognized”. Additionally, Steyskal (1968) suggested that *Ortalidina cellularis* may be the same species as *Acrometopia australis* Malloch. Although he did make the very astute connection of their being congeneric, they are not synonyms. Although the genus is under revision by me with several recognized new species, the key of Cogan (1978) and the wing photographs and various illustrations therein, as well as the photographs of primary types provided here, work to delimit the described species (with the exception that *Ortalidina cellularis* keys out to its synonymic species *Toropamecia grossa* Cogan).

Interestingly, the spelling *Ortalidina* was used by Rondani (1856) as a family-group name based upon Fallén’s (1810) name *Ortalides* (based on his genus *Ortalis*); this name is currently a junior synonym of Ulidiidae (Ulidiinae: Seipterini) (Kamaneva & Korneyev 2006).

Following is a list of species currently recognized in the genus *Ortalidina*, including all new combinations and a new synonymy.

***Ortalidina apaxa* (Cogan), comb. nov.**

Toropamecia apaxa Cogan 1978: 235. Chile. Tarapaca: Azapa. HT ♂ (Fig. 12), CNC.

***Ortalidina australis* (Malloch), comb. nov.**

Acrometopia australis Malloch 1933: 382. Chile. Concepcion. HT ♀ (Fig. 13), BMNH. Note: misspelling of *Acrometopia* Schiner.

Toropamecia australis (Malloch) (comb. Cogan 1978: 233).

***Ortalidina caribbea* (Cogan), comb. nov.**

Toropamecia caribbea Cogan 1978: 235. Puerto Rico. Ensenado Dic. HT ♂ (Fig. 14), USNM.

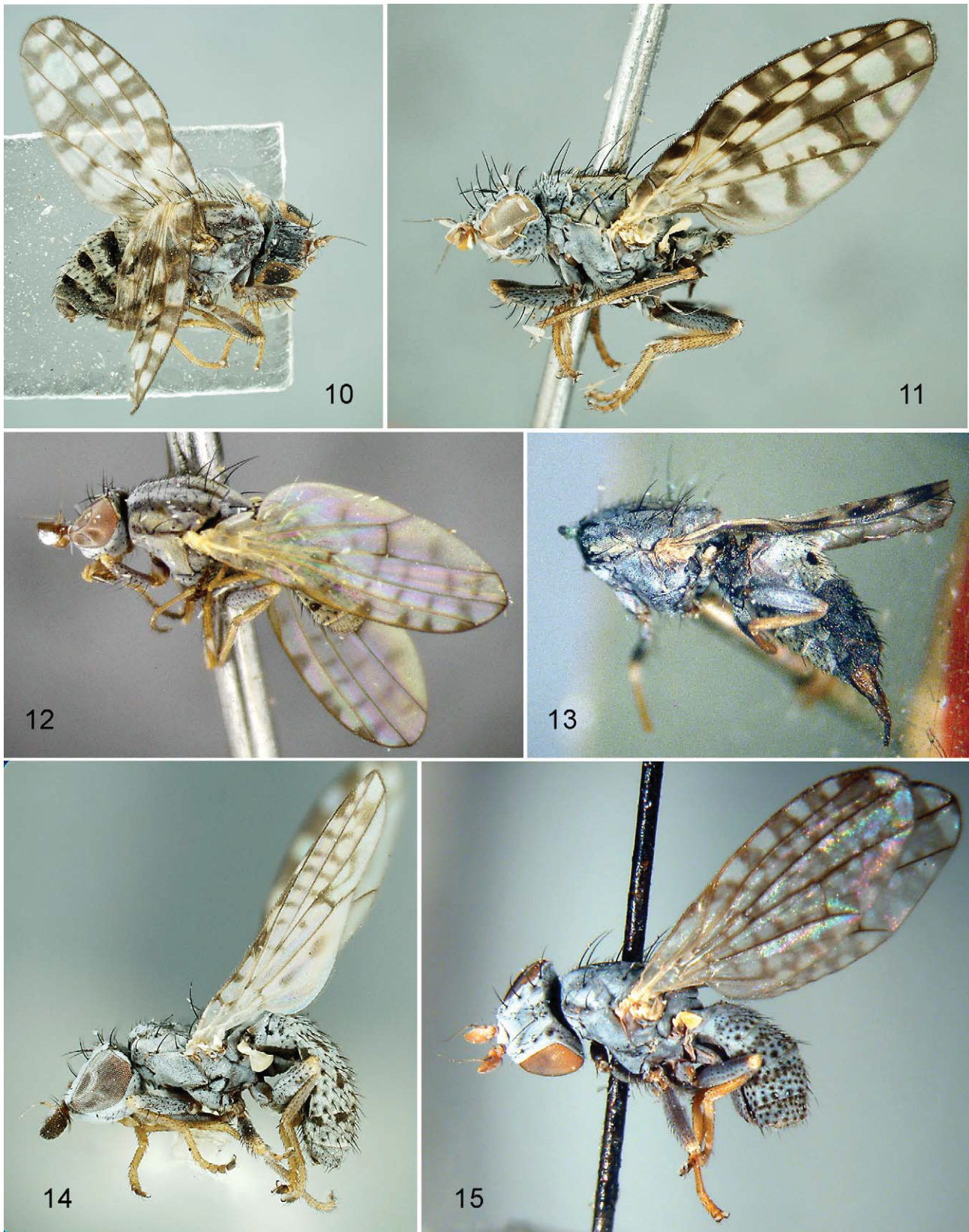


FIGURE 10–15. Primary type specimens for species of *Ortalidina*, cited according to their original combinations: 10. Lectotype ♂ of *Ortalidina cellularis* Blanchard. 11. Holotype ♂ of *Toropamecia grossa* Cogan. 12. Holotype ♂ of *Toropamecia apaxa* Cogan. 13. Holotype ♀ of *Acrometopia australis* Malloch (note, specimen is badly greased). 14. Holotype ♂ of *Toropamecia caribbea* Cogan. 15. Lectotype ♂ of *Acrometopia reticulata* Hendel [=*Toropamecia hendeli* Cogan].

***Ortalidina cellularis* Blanchard.**

Ortalidina cellularis Blanchard 1852: 455. Chile. Santa Rosa. LT ♂ (Fig. 10), MNHN, designated herein. Steyskal, 1968: 23 (catalog, as unplaced species, but noting likely synonymy with *Acrometopia australis*).

Toropamecia grossa Cogan 1978: 234, **syn. nov.** Chile. Chiloe: Isla Chiloe, Dalcahue. HT ♂ (Fig. 11), CNC.

Lectotype designation. Due to the importance of male genitalia in identifying Chamaemyiidae, and the poor condition of one of the two male syntypes, to avoid future confusion and to fix the identity of the type species for this genus, a lectotype is hereby designated. I choose the syntype male (mounted on left side on clear card; fair condition, slightly crushed but with little actual damage or loss of setae, right antennal pedicel and 1st flagellomere missing; pictured in Fig. 10) with the following labels as the lectotype for *Ortalidina cellularis*: “MUSEUM PARIS, CHILI, GAY 15-43” / “15, 43” (handwritten, on small circular label with green underside) / “cellularis Blanch.” (handwritten) / “Syntype ♂ *Ortalidina cellularis* Blanchard” (handwritten, red label) / “LECTOTYPUS ♂ *Ortalidina cellularis* Blanchard, des. S.D. Gaimari, 2012” (red label). The two paralectotypes bear the same first two labels as the lectotype, but lack the handwritten “cellularis Blanch.” label; the male has the following two labels – “Syntype ♂ *Ortalidina cellularis* Blanchard” (handwritten, red label) / “PARALECTOTYPUS ♂ *Ortalidina cellularis* Blanchard, des. S.D. Gaimari, 2012” (red label); the female has the following two labels – “Syntype ♀ *Ortalidina cellularis* Blanchard” (handwritten, red label) / “PARALECTOTYPUS ♀ *Ortalidina cellularis* Blanchard, des. S.D. Gaimari, 2012” (red label). The lectotype and paralectotypes are deposited in MNHN.

***Ortalidina hendeli* (Cogan), comb. nov.**

Acrometopia reticulata Hendel 1936: 88 (preocc. *Trigonometopus reticulatus* Johnson in comb. with *Toropamecia* and *Ortalidina*). Brazil. Serra do Itatiaya: Sudseite. LT ♂ (Fig. 15), NHMW, desig. Cogan 1978: 234.

Toropamecia hendeli Cogan 1978: 234. (replacement name for *Acrometopia reticulata* Hendel, *nec* *Trigonometopus reticulatus* Johnson).

***Ortalidina hyalipennis* (Cogan), comb. nov.**

Toropamecia hyalipennis Cogan 1978: 236. Brazil. Nova Teutonia. HT ♂ (Fig. 21), CNC.

***Ortalidina jujuyensis* (Cogan), comb. nov.**

Toropamecia jujuyensis Cogan 1978: 233. Argentina. Jujuy. HT ♂ (Fig. 16), CNC.

***Ortalidina longipennis* (Cogan), comb. nov.**

Toropamecia longipennis Cogan 1978: 237. Ecuador. El Angel: Carchi. HT ♂ (Fig. 18), CNC.

***Ortalidina macalpinei* (Cogan), comb. nov.**

Toropamecia macalpinei Cogan 1978: 236. Chile. Malleco: Liucara. HT ♂ (Fig. 19), CNC.

***Ortalidina maculata* (Coquillett), comb. nov.**

Acrometopia maculata Coquillett 1902: 185. Cuba. Baracoa. HT ♀ (Fig. 20), USNM.

Acrometopa maculosa (missp. Malloch 1933: 382).

Toropamecia maculata (Coquillett) (comb. Cogan 1978: 233).

***Ortalidina multipunctata* (Cogan), comb. nov.**

Toropamecia multipunctata Cogan 1978: 233. Argentina. Jujuy: Cieneguillas. HT ♂ (Fig. 17), CNC.

***Ortalidina nigripalpis* (Cogan), comb. nov.**

Toropamecia nigripalpis Cogan 1978: 235. El Salvador. San Salvador. HT ♂ (Fig. 24), USNM.

***Ortalidina punctata* (Coquillett), comb. nov.**

Acrometopia punctata Coquillett 1902: 185. USA. Georgia. HT ♀ (Fig. 22), USNM. Sturtevant 1923: 4 (as senior synonym of *Trigonometopus reticulatus*); McAlpine 1965: 707 (catalog); Steyskal 1972: 302 (in key).

Toropamecia punctata (Coquillett) (comb. Cogan 1978: 232).

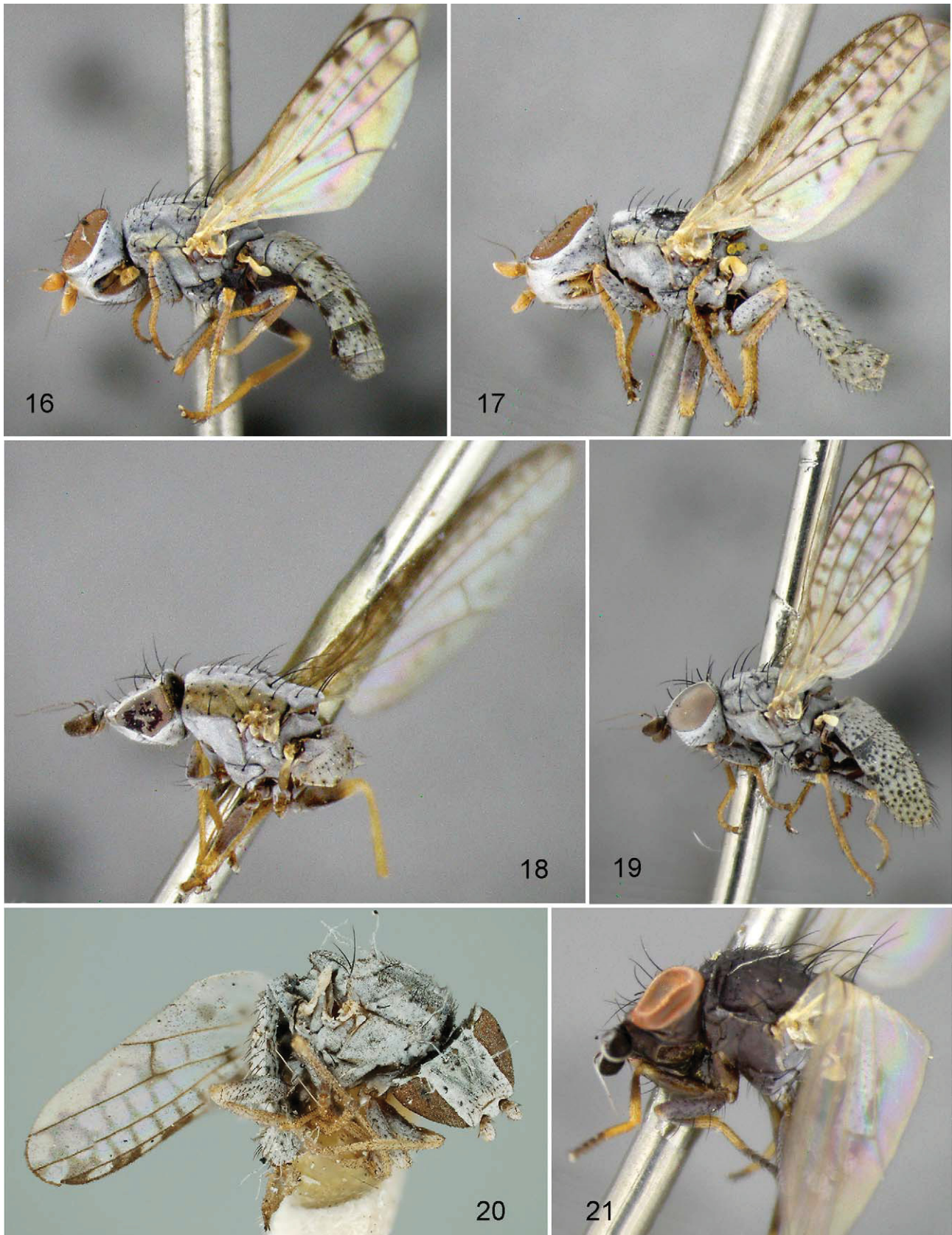


FIGURE 16–21. Primary type specimens for species of *Ortalidina*, cited according to their original combinations: 16. Holotype ♂ of *Toropamecia jujuyensis* Cogan. 17. Holotype ♂ of *Toropamecia multipunctata* Cogan. 18. Holotype ♂ of *Toropamecia longipennis* Cogan. 19. Holotype ♂ of *Toropamecia macalpinei* Cogan. 20. Holotype ♀ of *Acrometopia maculata* Coquillett. 21. Holotype ♂ of *Toropamecia hyalipennis* Cogan (note, specimen is badly greased).



FIGURE 22–27. Primary type specimens for species of *Ortalidina*, cited according to their original combinations: 22. Holotype ♀ of *Acrometopia punctata* Coquillett. 23. Holotype ♂ of *Toropamecia reducta* Cogan (note, specimen is badly greased). 24. Holotype ♂ of *Toropamecia nigripalpis* Cogan. 25. Holotype ♀ of *Trigonometopus reticulatus* Johnson. 26. Holotype ♂ of *Toropamecia smithi* Cogan. 27. Holotype ♂ of *Toropamecia veenota* Cogan.

***Ortalidina reducta* (Cogan), comb. nov.**

Toropamecia reducta Cogan 1978: 236. Chile. Malleco. HT ♂ (Fig. 23), CNC.

***Ortalidina reticulata* (Johnson), comb. nov.**

Trigonometopus reticulatus Johnson 1913: 81. USA. Florida: Crescent City. HT ♀ (Fig. 25), MCZ. Sturtevant 1923: 4 (as junior synonym of *Acrometopia punctata*); McAlpine 1965: 707 (as junior synonym of *Acrometopia punctata*).

Acrometopia reticulata (Johnson) (comb. Sturtevant 1923: 4). Steyskal 1972: 302 (revised status as valid, in key).

Toropamecia reticulata (Johnson) (comb. Cogan 1978: 232). Tanasijtshuk 1992: 214/81 (figs., ♂ genitalia).

***Ortalidina smithi* (Cogan), comb. nov.**

Toropamecia smithi Cogan 1978: 234. Brazil. Nova Teutonia. HT ♂ (Fig. 26), BMNH.

***Ortalidina veenota* (Cogan), comb. nov.**

Toropamecia veenota Cogan 1978: 233. Argentina. 15 km S Jujuy. HT ♂ (Fig. 27), CNC.

Acknowledgements

I heartily thank Allen Norrbom (USNM) for letting me know he had seen the syntypes of *Ortalidina cellularis* at MNHN and thought it might be a chamaemyiid, which prompted my borrowing the types, with thanks to Jeanne Charbonnel (MNHN). I also thank the following additional curators for providing access to specimens under their care: John Chainey (BMNH); James O'Hara and Jeff Cumming (CNC); Philip Perkins (MCZ); Carlos Lamas (MZSP); and Ruth Contreras-Lichtenberg and Peter Senhal (NHMW). Additional thanks to Phil Perkins for providing me with photographs of the holotype of *Trigonometopus reticulatus*; all other photos were taken by me, with special thanks to the curators above who provided access to the specimens. Thanks also go to Martin Hauser (CSCA), Kevin Barber (Canadian Forestry Service, Sault Ste. Marie, Ontario) and one anonymous reviewer for providing helpful reviews of the manuscript. This paper is partly based upon work supported by the National Science Foundation under DEB Award No. 0075206. Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the author and do not necessarily reflect the views of NSF.

References

- Beingolea, O. (1957) Notes on a chamaemyiid (Diptera) predator of eggs of *Orthezia insignis* Douglas (Homoptera) in Peru. *Bulletin of the Brooklyn Entomological Society*, 52, 118–121.
- Ben-Dov, Y. (2011) ScaleNet, Coccidae, Ceroplastes. Accessed 30 December 2011. <http://www.sel.barc.usda.gov/catalogs/coccidae/CeroplastesAll.htm>.
- Blanchard, E. (1852) Orden IX. Dipteros. Pages 327–468, in: Gay, C. (ed.), *Historia Fisica y Politica de Chile. Zoologia*. Volume 9, 471 pp. Paris.
- Cogan, B.H. (1978) A revision of *Acrometopia* Schiner and closely related genera. *Beiträge zur Entomologie*, 28, 223–250.
- Coquillett, D.W. (1902) New Acalyprate Diptera from North America. *Journal of the New York Entomological Society*, 10, 177–199.
- Cumming, J.M. & Wood, D.M. (2009) Adult Morphology and Terminology. Pages 9–50, in: Brown, B.V., Borkent, A., Cumming, J.M., Wood, D.M., Woodley, N.E. & Zumbado, M. (eds.), *Manual of Central American Diptera*. Volume 1. NRC Research Press, Ottawa, Canada, 714 pp.
- Fallén, C.F. (1810) *Specim. entomol. novam Diptera disponendi methodum exhibens*. Berlingianis, Lundae [=Lund]. 26 pp.
- Gaimari, S.D. (2010) Chamaemyiidae. Pages 997–1007, in: Brown, B.V., Borkent, A., Cumming, J.M., Wood, D.M., Woodley, N.E. & Zumbado, M. (eds.), *Manual of Central American Diptera*. Volume 2. NRC Research Press, Ottawa, Canada, xvi + pp 715–1442.
- Gaimari, S.D. & Tanasijtshuk, V.N. (2001) A new leucopine genus (Diptera: Chamaemyiidae) with species attacking *Ceroplastes* wax scales in South America. *Systematic Entomology*, 26, 311–328.
- Hendel, F. (1936) Ergebnisse einer zoologischen Sammelreise nach Brasilien, insbesondere in das Amazonasgebiet, ausgeführt von Dr. H. Zerny. X. Teil. Diptera: Muscidae acalypratae (excl. Chloropidae). *Annalen des Naturhistorischen Museums in Wien*, 47, 61–106.

- Johnson, C.W. (1913) Article III.—Insects of Florida. I. Diptera. *Bulletin of the American Museum of Natural History*, 32, 37–90.
- Kamaneva, E. & Korneyev, V. (2006) Myennidini, a new tribe of the subfamily Otitinae (Diptera: Ulidiidae), with discussion of the suprageneric classification of the family. Pages 497–586, in: Freidberg, A. (ed.), *Biotaxonomy of Tephritoidea*. Israel Journal of Entomology, 35/36 (2005/2006), 599 pp.
- Malloch, J.R. (1933) Acalyptrata (Helomyzidae, Trypetidae, Sciomyzidae, Sapromyzidae, etc.). *Diptera of Patagonia and South Chile*, Part VI, Fascicle 4, 177–391.
- McAlpine, J.F. (1965) Family Chamaemyiidae (Ochtiphilidae). Pages 706–709, in: Stone, A., Sabrosky, C.W., Wirth, W.W., Foote, R.H. & Coulson, J.R. (eds.), *A Catalog of the Diptera of America North of Mexico*. USDA Agricultural Handbook no. 276, 1696 pp.
- McAlpine, J.F. (1981) Morphology and Terminology—Adults. Pages 9–63, in: McAlpine, J.F., Peterson, B.V., Shewell, G.E., Teskey, H.J., Vockeroth, J.R. & Wood, D.M. (coords.), *Manual of Nearctic Diptera*. Volume 1. Research Branch, Agriculture Canada, Ottawa, Monograph 27, 674 pp.
- McAlpine, J.F. (1987) Chamaemyiidae. Pages 965–971, in: McAlpine, J.F. (ed.), *Manual of Nearctic Diptera*. Volume 2. Research Branch, Agriculture Canada, Ottawa, Monograph 28, 675–1332.
- Rondani, C. (1856) *Dipterologiae Italicae prodromus. Vol. I. Genera Italica ordinis Dipterorum ordinatim disposita et distincta et in familias et stirpes aggregata*. Alexandri Stoschi, Parmae [=Parma], 226 [+2] pp.
- Sabrosky, C.W. (1957) A new genus and two new species of Chamaemyiidae (Diptera) feeding on *Orthezia* scale insects. *Bulletin of the Brooklyn Entomological Society*, 52, 114–117.
- Steyskal, G.C. (1968) Family Otitidae (Ortalidae; including Pterocallidae, Ulidiidae). *A Catalogue of the Diptera of the Americas South of the United States*, 54, 31 pp.
- Steyskal, G.C. (1972) The genus *Acrometopia* Schiner in North America (Diptera: Chamaemyiidae). *Proceedings of the Entomological Society of Washington*, 74, 302.
- Sturtevant, A.H. (1923) New species and notes on synonymy and distribution of Muscidae Acalypteratae (Diptera). *American Museum Novitates*, 76, 1–12.
- Tanasijtshuk, V.N. (1986) [Silver-flies (Chamaemyiidae)]. *Fauna of the USSR, New Series 134, Dipterans*. Volume 14. Zoological Institute of the Russian Academy of Sciences, Nauka Publishers, St. Petersburg, 335 pp. (in Russian).
- Tanasijtshuk V.N. (1992) Morphological differences and phyletic relations between the genera of chamaemyiid flies (Diptera, Chamaemyiidae). *Entomologicheskoye Obozreniye*, 72, 199–230. (in Russian; English translation: (1993) Morphological differences and phylogenetic relationships of genera of Chamaemyiidae (Diptera). *Entomological Review*, 72, 66–100).
- Tanasijtshuk, V.N. (1996) Silver-flies (Diptera, Chamaemyiidae) of Australia. *An International Journal of Dipterological Research*, 7, 1–62.
- Tanasijtshuk, V.N. (2003) Geographical distribution and system of silver-flies (Diptera, Chamaemyiidae). *Proceedings of the Zoological Institute of the Russian Academy of Sciences*, 299, 167–180.